

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 94-149

NPDES PERMIT NO. CA0037664

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITY AND COUNTY OF SAN FRANCISCO  
SOUTHEAST WATER POLLUTION CONTROL PLANT

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter called the Board, finds that:

1. The City and County of San Francisco, hereinafter called the discharger, submitted a report of waste discharge dated December 22, 1993 for reissuance of NPDES Permit No. CA0037664.
2. The discharger presently discharges an average dry weather flow of 67 million gallons per day (mgd) from its treatment plant which has a peak secondary treatment capacity of 150 mgd. This plant treats domestic and industrial wastewater from the Southeast and North Shore areas of San Francisco, the Bayshore Sanitary District, and a small part of the North San Mateo County Sanitation District. All treated wastewater up to an outfall design capacity of 100 mgd is discharged into a deepwater outfall through Pier 80 (waste 001) to the northern portion of San Francisco Bay approximately 810 feet from shore at latitude 37 deg., 44 min., 58 sec.; longitude 122 deg., 22 min., 22 sec. The submerged diffuser is 42 feet below mean lower low water where initial dilution exceeds 10:1.
3. During wet weather, the plant converts to the wet weather operations mode and provides secondary treatment up to 150 MGD. During larger storms, the plant provides an additional 60 MGD of primary-only treatment (for a total wet weather treatment capacity up to 210 MGD). In 1996, the discharger will complete improvements which will provide an additional 40 MGD of wet-weather primary capacity. Thus, the total wet weather capacity will be up to 250 MGD. The wet-weather combined sewer overflows from the discharger's bayside wet weather diversion structures are governed by a separate NPDES Permit (No. CA0038610).

4. During wet weather, effluent flows in excess of 100 million gallons per day (mgd) are discharged into Islais Creek through the Quint Street Outfall (waste 002) at latitude 37 deg., 44 min., 50 sec.; longitude 122 deg., 23 min., 13 sec. The Quint Street Outfall for wet weather flows receives less than a 10:1 dilution.
5. The Basin Plan prohibits waste discharges to surface waters where less than 10:1 initial dilution is achieved. All discharges contain some pollutants and insufficient dilution is likely to cause adverse water quality impacts in the event of the plant upset or poor operation. The Basin Plan allows exceptions to this prohibition under certain conditions: (1) if meeting it would place an inordinate burden on the discharger relative to the beneficial uses protected and (2) an equivalent level of environmental protection can be achieved by an alternate means. In 1991, the Board adopted Order 91-153 to amend Cease and Desist Order No. 84-029 to require the Discharger to select an alternative by November 1, 1994 to address the wet weather discharge into Islais Creek. The Discharger is preparing a facilities plan and Environmental Impact Report which evaluate the alternatives to this discharge. In addition, the Discharger organized and is a major participant in the assessment of the large scale regional water reclamation program which could also result in the elimination of this discharge. Because of the ongoing status of the regional reclamation study, the discharger has requested that Order No. 91-153 be amended to allow the discharger until November 1997 to submit a recommendation to eliminate the wet weather discharge in Islais Creek. The discharges occur approximately 600 hours per year. The discharger is currently constructing facilities to mitigate the potential impacts of the wet weather discharge into Islais Creek. These facilities are designed to insure that only secondary-treated flows are discharged to Islais Creek by the end of 1996. After the project is complete, the discharger is planning to evaluate whether the intermittent discharge of secondary effluent has an adverse impact in Islais Creek.
6. On April 11, 1994, the federal EPA adopted the Combined Sewer Overflow (CSO) Control Policy (50FR 18688). This Policy establishes a consistent national approach for controlling discharges from CSOs to the Nation's water through the NPDES permit program. The discharger is served almost 100% by combined sewers and thus is directly affected by the Policy. This Order implements the Policy in Section B., Effluent Limitations and Section E., Provisions. Based on the Board's preliminary evaluation, the CSO control requirements in this permit and the NPDES Permit for the Wet-weather Diversion Structures (CA0038610) are in compliance with the policy.
7. The discharger has demonstrated implementation of the nine minimum control technologies as specified in the Policy. These nine minimum control technologies are equivalent to the Clean Water Act (CWA) requirements in Section 301 (b)(2) that permits contain effluent limitations which:

- a. Control toxic pollutants through the use of Best Available Technology Economically Achievable (BAT),
  - b. Represent Best Conventional Pollutant Control Technology (BCT), and
  - c. Control non-toxic, non-conventional pollutants through the use of Best Available Technology Economically Achievable (BAT).
- 8. The discharger has substantially completed its CSO control program and has otherwise demonstrated compliance with section I.C.1 of the CSO Control Policy which allows grandparenting for the purposes of not preparing a (new) CSO long-term plan.
- 9. The discharger has demonstrated compliance with the "presumption" approach for compliance during wet weather with water quality standards.
- 10. The discharger's implementation of its wastewater master plan appropriately considered sensitive areas as required in the CSO Control Policy.
- 11. This Order, in Section B. Effluent Limitations and E. Provision, implements the provisions of the Policy that relate to operation of the Southeast Water Pollution Control Plant.
- 12. During wet weather, San Francisco operates its treatment facilities at the maximum capacity compatible with safe operation and thus is in compliance with the Policy provisions which allow for the discharge during wet weather of combined sewer flows which have received primary-only treatment.
- 13. The federal regulations which implement the Clean Water Act address the capability of treatment works receiving flows from combined sewer systems to meet the 85% removal requirements which are part of the definition of secondary treatment. The regulations note that the treatment works may not be able to meet the percentage removal requirements during wet weather. The regulations specify that the decision must be made on a case-by-case basis as to whether any attainable percentage removal level can be defined.
- 14. The Southeast Water Pollution Control Plant uses a biological treatment process (pure oxygen activated sludge). The treated wastewater is currently disinfected with hypochlorite followed by dechlorination with bisulfite.
- 15. This discharge is presently governed by Waste Discharge Requirements in Order No. 89-101 (NPDES permit CA0037664), adopted by the Board on June 21, 1989.

16. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on December 17, 1986. The Board amended its Basin Plan on September 16, 1992, and the State Board approved it on April 27, 1993, with approval from the State Office of Administrative Law pending. Section 1 of the 1992 Basin Plan amendments, "Implementation of Statewide Plans" was remanded by the State Board on June 23, 1994, due to its reliance on the two Statewide Plans that are no longer legally in effect. The Basin Plan identifies beneficial uses and water quality objectives for surface and ground waters in the region, as well as discharge prohibitions intended to protect beneficial uses.
17. Effluent limitations in this permit are based on the plans, policies, and water quality objectives and criteria of the Basin Plan, Quality Criteria for Water (EPA 440/5-86-001, 1986; Gold Book), Applicable Federal Regulations (40 CFR Parts 122 and 131), the National Toxics Rule (57 FR 60848, 22 December 1992; NTR), and Best Professional Judgement.
18. The Board amended the Basin Plan on October 21, 1992 to adopt a site-specific water quality objective of 4.9 ug/l for copper for San Francisco Bay. The State Board did not approve this amendment on procedural grounds. In the best professional judgment of Regional Board staff, from a technical standpoint, the site-specific objective is currently the best available water quality objective that is protective of the most sensitive designated use of San Francisco Bay waters with respect to copper: habitat for aquatic organisms. The effluent concentration limit for copper in this permit is based on the site-specific objective for copper, which employed the "water effect ratio" approach developed by the EPA. This approach provides a measure of the binding capacity of natural waters (dependent on particulate matter) relative to the binding capacity of reference waters (filtered oceanic water). The study and associated staff analysis are described in a September 25, 1992 staff report entitled "Revised Report on Proposed Amendment to Establish a Site Specific Objective for Copper for San Francisco Bay."
19. In 1993, the Regional Monitoring Program (RMP) found PCB concentrations in water throughout the estuary at levels exceeding the EPA criterion. The EPA criterion indicates the potential for bioaccumulation in fish tissue to levels that exceed their Human Health criteria for a carcinogen risk level of  $10^{-6}$ , when the fish is consumed at rate exceeding 6.5 grams per day. Concentration of PCBs and other pollutants in fish tissue are being measured in a study currently being conducted by the Regional Board. The Regional Board and the discharger acknowledge that commercially available laboratory techniques do not allow for detection of PCBs or TCDDs in effluent at levels low enough to determine the extent of contribution of these substances by the discharger. Therefore, rather than focusing additional resources on characterizing PCB and TCDD levels in effluent, the discharger is required to participate in the Regional Monitoring Program to further define the level of contamination of fish tissue in the estuary.

20. The Basin Plan contains water quality objectives and beneficial uses for Central San Francisco Bay. The beneficial uses of lower San Francisco Bay are as follows:
- Industrial Service Supply
  - Navigation
  - Water Contact Recreation
  - Non-contact Water Recreation
  - Wildlife Habitat
  - Preservation of Rare and Endangered Species
  - Fish Migration
  - Fish Spawning
  - Shellfish Harvesting
  - Estuarine Habitat
21. The storm water flows from the wastewater treatment facility process areas are directed to the wastewater treatment plant headworks and treated along with the wastewater discharged to the treatment plant. These stormwater flows constitute all industrial storm water at this facility and consequently this permit regulates all industrial storm water discharges at this facility.
22. The discharger has implemented and is maintaining an USEPA approved pretreatment program in accordance with Federal pretreatment regulations (40 CFR 403).
23. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, recommended operation strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, the manual shall be kept updated to reflect significant changes in treatment facility equipment and operation practices.
24. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21000) of Division 13 of the Public Resources Code [California Environmental Quality Act (CEQA)] pursuant to Section 13389 of the California Water Code.
25. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity to submit their written views and recommendations.
26. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

**IT IS HEREBY ORDERED**, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

**A. DISCHARGE PROHIBITIONS**

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited except the wet weather discharges into Quint Street Outfall (waste 002) will be allowed, as long as they are consistent with the Cease and Desist Order No. 84-029 and its subsequent amendments Order Nos. 88-105, 91-53 and 92-156.
2. The bypass or overflow of untreated or partially treated wastewater to waters of the State, either at the treatment plant or from the collection system or pump stations tributary to the treatment plant, is prohibited, except during a wet weather day the bypass or overflow will be allowed, as long as they are consistent with the Effluent Limitation Sections B.1., B.1.2 and B.1.3. During wet weather, combined sewer overflows from the bayside wet weather diversion structures will be allowed, as long as they are consistent with NPDES permit No. CA 0038610 and this permit.
3. The average dry weather flow discharge shall not exceed 85.4 mgd. The average dry weather flow shall be determined over three consecutive dry weather months each year.

**B. EFFLUENT LIMITATIONS**

**1.1 Under Dry Weather Discharge Conditions and Wet Weather Discharge Conditions Prior to the Completion of the Southeast Water Pollution Control Plant Improvements:**

- a. The effluent (waste E-001) discharged into the deepwater outfall and waste E-002 discharged into Islais Creek shall not exceed the following limits:

<u>Constituent</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Max.</u>
a. Settleable Matter	ml/l-hr	0.1	---	---	0.2
b. BOD <sub>5</sub>	mg/l	30	45	---	---
c. Total Suspended Solids	mg/l	30	45	---	---
d. Oil & Grease	mg/l	10	---	20	---
e. Total Chlorine Residual(1)	mg/l	---	---	---	0.00

Footnotes: (1) Requirement defined as below the limit of detection in standard test methods.

1.2 **Under Wet Weather Discharge Conditions After completion of the Southeast Water Pollution Control Plant Improvements:**

- a. The effluent (waste E-001) discharged into the deepwater outfall shall be governed by the following effluent requirements:
  - (1). A wet-weather day is any day which any of the following conditions exist as a result of rainfall:
    - a. The instantaneous influent flow to the Southeast Water Pollution Control Plant exceeds 150 MGD or;
    - b. The average influent concentration of TSS or BOD is less than 100 mg/l.
  - (2). This discharger shall maximize the delivery of flows during wet weather to the treatment plant for treatment. In so doing, the discharger will maximize the use of the available treatment facilities consistent with the reliable operation of these facilities.
  - (3). The discharger shall provide the maximum secondary treatment available in accordance with the operating manual and all wet weather flows passing the headworks shall receive at least primary clarification (defined as solids and floatable removal and disposal) and disinfection and any other treatment that can reasonably be provided with the existing facilities.
  - (4). The discharger shall fully implement and continue to operate the CSO control described in Attachment of this permit.

1.3 **Wet Weather Discharge into Quint Street Outfall(waste 002)After Completion of the Southeast Water Pollution Control Plant Improvements:**

- a. Effluent discharged to Quint Street Outfall (waste 002) during a wet weather day shall be governed by the following effluent requirements:
  - (1). All discharges into Quint Street Outfall must receive full secondary treatment and adequate disinfection.
  - (2). A wet-weather day is any day which any of the following condition exist as a result of rainfall:

- a. The instantaneous influent flow to the Southeast Water Pollution Control Plant exceeds 100 MGD.
2. pH: the pH of the discharge shall not exceed 8.5 nor be less than 6.0.
3. Fecal Coliform Bacteria:

The 30-day moving median value for fecal coliform density in final effluent samples shall not exceed 500 CFU/100ml, nor shall more than 10% of the samples equal or exceed 1100 CFU/100ml.
4. 85 Percent Removal, BOD and TSS:

The arithmetic mean of the biochemical oxygen demand (Five-day, 20°C) and total suspended solids values, by weight, for effluent samples collected in each calendar month shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period. These requirements are waived during wet-weather conditions as allowed under the provisions of 40 CFR 133.103(a), Special Considerations - Combined Sewers."
5. Effluent Toxicity:
  - 5.1 Acute Toxicity: <sup>(a)</sup>

The survival of organisms in undiluted effluent shall be an eleven (11) sample median value of not less than 90 percent survival, and an eleven (11) sample 90 percentile value of not less than 70 percent survival. The eleven sample median and 90th percentile effluent limitations are defined as follows:

11 sample median: A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

90th percentile: A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or less bioassay tests show less than 70 percent survival.

<sup>(a)</sup> Based on the results of the acute toxicity testing conducted by the discharger between 2/19/91 and 6/4/94, the discharger has identified the three-spined stickleback as the more sensitive of the two species tested. The discharger also reported no violation of the acute toxicity limit over the last three years. Based on the above findings, the Board has approved that compliance monitoring be reduced to a single species, the three-spined stickleback.

## 5.2 Chronic Toxicity:

The discharge is classified as a deep water discharge. The chronic toxicity effluent limitation is based on a dilution ratio of 10:1.

The combined effluent as discharged, shall meet both of the following chronic toxicity limitations:

- a. an eleven sample median value<sup>1</sup> of 10 TUc<sup>2</sup>; and
- b. a 90 percentile value<sup>3</sup> of 20 TUc<sup>2</sup>.

<sup>1</sup> A test sample showing chronic toxicity greater than 10 TUc represents consistent toxicity and a violation of this limitation, if five or more of the past ten or less tests show chronic toxicity greater than 10 TUc.

<sup>2</sup> A TUc equals 100/NOEL. The NOEL is the no observable effect level, determined from IC, EC, or NOEL values. These terms and their usage in determining compliance with the limitations are defined in attachment A of this Order. The NOEL shall be based on a critical life stage test using the most sensitive test species as specified by the Executive Officer. The Executive Officer may specify two compliance species if test data indicate that there is alternating sensitivity between the two species. If two compliance test species are specified, compliance shall be based on the maximum TUc value for the discharge sample based on a comparison of TUc values obtained through concurrent testing of the two species.

<sup>3</sup> A test sample showing chronic toxicity greater than 20 TUc represents consistent toxicity and a violation of this limitation if one or more of the past ten or less samples shows toxicity greater than 20 TUc.

6. Representative samples of the effluent E-001 shall not exceed the following limits except during the wet weather day when the instantaneous influent flow to the Southeast Water Pollution Plant exceeds 150 MGD.

### 6.1 Limits for Toxic Pollutants

The effluent shall not exceed the following limits (a,e) (Units for all limits are in ug/l)

<u>Constituent</u>	<u>Monthly Average(b)</u>	<u>Daily Average</u>
Arsenic	---	20
Cadmium	---	30
Chromium (VI) (c)	---	110
Copper	---	37
Lead	---	53
Nickel (f)	---	65
Phenolic Compounds	---	500
Selenium (f)	---	20
Silver	---	23
Zinc (f)	---	500

## 6.2 Limits for Toxic Pollutants

The effluent shall not exceed the following limits (a):

(Units for all limits are in ug/l)

<u>Constituent</u>	<u>Monthly Average (b)</u>	<u>Daily Average (b)</u>	<u>Interim Limits Monthly &amp; Daily Average From 10/30/94 to 9/30/98</u>
Aldrin	0.0014	--	0.005
Chlordane	0.0008	0.043	0.1(g)
Cyanide (d)	--	10	--
Dieldrin	0.0014	0.019	0.1(g)
Endrin	--	0.023	0.2(g)
Heptachlor	0.0016	0.0036	0.005
Hexachlorobenzene	0.0069	--	0.2(g)
Mercury	0.21	1.0	0.7
PAHs	0.31	150	10
PCBs (Total)	0.0007	0.3	0.2
TCDD Equivalents	1.4E-07	--	5E-03
Toxaphene	0.0067	0.002	0.2(g)
Tributyltin	0.05	--	--

### Footnotes:

- a. Table 6.1 - The limitations for arsenic, cadmium, hexavalent chromium, nickel and zinc are based on plant performance and are below their respective water quality based effluent limitations derived from the 1986 Basin Plan Table III-2A. The limitation for selenium is also performance based, however, there is no applicable marine water quality objective. The derivation for the copper limitation is explained in finding 18. The other limitations of Table 6.1 are derived from the 1986 Basin Plan Table III-2-A.

Table 6.2 - The proposed Monthly and Daily Limitations on this Table are derived from EPA's Water Quality Criteria (Gold Book). The monthly limitations for carcinogens (all table 6.2 toxicants except mercury and tributyltin) are calculated using a cancer risk factor of  $10^{-6}$ . If the SWRCB adopts an alternate cancer risk factor for the Enclosed Bays and Estuaries Plan, these limitations will be modified accordingly. The interim limitations for aldrin, heptachlor, mercury, PAHs, PCB and TCDD equivalents are performance based.

All limitations in Table 6.1 and Table 6.2 are intended to be achieved through secondary treatment, pretreatment and source control. In the event that the discharger is unable to achieve any of these limitations and can demonstrate that they made all reasonable efforts to achieve compliance, the discharger may petition the Board for a modification of the limitation(s).

- b. Limits apply to the average concentration of all samples collected during the averaging period (Daily - 24-hour period; Monthly - Calendar month).
- c. The discharger may meet this limit as total chromium.
- d. The discharger may demonstrate compliance with this limitation by measurement of weak acid dissociable cyanide.
- e. All analyses shall be performed using current USEPA Methods, as specified in 40 CFR 136 (40 CFR 122.44(i)).
- f. Effluent limitation may be met as a 4-day average. If compliance is to be determined based on a 4-day average, then concentrations of four 24-hour composite samples shall be reported, as well as the average of four.
- g. The interim limits are based on Practical Quantitation Level (PQL). PQL is the lowest concentration of a substance which can be determined within  $\pm 20$  percent of the true concentration by 75 percent of the analytical laboratories tested in a performance evaluation study.

## C. RECEIVING WATER LIMITATIONS

- 1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths to the extent that such deposits or growths cause nuisance or adversely affect beneficial uses;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

- e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on wildlife, waterfowl, or other aquatic biota, or which render any of these unfit for human consumption, either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State any place within one foot of the water surface:
  - a. Dissolved Oxygen                      5.0 mg/l, minimum  
  
 The median dissolved oxygen concentration for any three consecutive months shall not be less than 80% of the dissolved oxygen content at saturation. When natural factors cause concentrations less than that specified above, then the discharge shall not cause further reduction in ambient dissolved oxygen concentrations.
  - b. Dissolved Sulfide                      0.1 mg/l, maximum
  - c. pH    Variation from normal ambient pH by more than 0.5 pH units.
  - d. Un-ionized Ammonia                      0.025 mg/l as N, annual median  
    0.16 mg/l as N, max.  
    0.40 mg/l as N, Max, for Islais Creek
  - e. Nutrients                                      Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.
3. The discharge shall not cause a violation of any particular water quality standard for receiving waters adopted by the Board or the State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

#### **D. SLUDGE MANAGEMENT PRACTICES**

1. All sludge generated by the discharger must be disposed of in a municipal solid waste landfill, reused by land application, or disposed of in a sludge-only landfill in accordance with 40 CFR Part 503. If the discharger desires to dispose of sludge by a different method, a request for permit modification must be submitted to the USEPA 60 days before start-up of the alternative disposal practice. All the requirements in 40 CFR 503 are enforceable by USEPA whether or not they are stated in an NPDES permit or other permit issued to the discharger.
2. Sludge treatment, storage, and disposal or reuse shall not create a nuisance, such as objectionable odors or flies, or result in groundwater contamination.
3. Duty to mitigate: The discharger shall take all reasonable steps to prevent or minimize any sludge use or disposal which has a likelihood of adversely affecting human health or the environment.
4. The discharge of sewage sludge shall not cause waste material to be in a position where it is, or can be carried from the sludge treatment and storage site and deposited in the waters of the State.
5. The sludge treatment and storage site shall have facilities adequate to divert surface runoff from adjacent areas, to protect boundaries of the site from erosion, and to prevent any conditions that would cause drainage from the materials in the temporary storage site. Adequate protection is defined as protection from at least a 100-year storm and protection from the highest possible tidal stage that may occur.
6. Sludge that is disposed of in a municipal solid waste landfill must meet the requirements of 40 CFR 258. In the annual self-monitoring report, the discharger shall include the amount of sludge disposed of, and the landfill(s) to which it was sent.
7. The Board may amend this permit prior to expiration if changes occur in applicable state and federal sludge regulations.

#### **E. PROVISIONS**

1. Order No. 84-27 and 89-101 remains in effect for purpose of enforcement of Cease and Desist Order Nos. 88-105, 91-153 and 92-156. For other purpose requirements prescribed by this Order supersede the requirements prescribed by Order No. 89-101.

2. Where concentration limitations in mg/l or µg/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

Mass Emission Limit in kg/day = (Concentration Limit in mg/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 3.78(conversion factor).

3. As new water quality objectives go into effect for San Francisco Bay (whether statewide, regional or site-specific), the effluent limitations in this permit will be modified as necessary to reflect the objectives. Adoption of the effluent limitations contained in this permit is not intended to restrict in any way future modification based on legally adopted water quality objectives.
4. The discharger shall comply with all sections of this Order immediately upon adoption.
5. Effluent Toxicity

Acute Toxicity

- a. Compliance with Effluent Limitation B.5.1. (Acute Toxicity) of this Order shall be evaluated by measuring survival of test species exposed to undiluted effluent for 96 hours in flow-through bioassays. Based on the results of the effluent characterization study, the discharger has identified the three-spined stickleback is the most sensitive species of the two species (fat-head minnow and the three-spined stickleback). The discharger also reported no violation of the acute toxicity limit over the last three years. Based on the above findings, the discharger is allowed that to reduce compliance monitoring to a single species, the three spined stickleback.
  - b. All bioassays shall be performed according to protocols approved by the USEPA or State Board, or published by the American Society for Testing and Materials (ASTM) or American Public Health Association.
6. Compliance with Chronic Toxicity Effluent Limitation:  
All permit amendments contained in Regional Board Order No. 92-104, the Blanket chronic Toxicity Order, are hereby included in this Order.
  7. The discharger shall submit, by January 30, 1998, a technical report acceptable to the Executive Officer summarizing the results of a minimum of six (6) effluent sample analyses for the constituents listed in Section B.6.2 (three in wet season, three in dry season), The report shall include the limit of

quantification (LOQ), method detection limit (MDL) and practical quantification limit (PQL) achieved at the discharger's laboratory and an evaluation of compliance with the effluent limitations for each constituent. For each constituent, the LOQ, MDL and PQL should be less than the effluent limit, where reasonable and technically feasible. For constituents analyzed outside of the discharger's laboratory, MDL, and PQL should be provided to the discharger by outside laboratories, and included in this technical report. If the monitoring results document that the effluent cannot meet the limits for Toxic Pollutants (Section B.6.2), the discharger may petition for longer compliance periods or for reconsideration of the final effluent limitation. This petition must be based on the planning and implementation of an aggressive pollution prevention program. The Board shall consider the petition by the discharger no later than August 30, 1998.

8. The discharger shall continue to implement and expand its existing Pollution Prevention Program in order to reduce the pollutant loadings to the treatment plant and, subsequently, to the receiving water.
9. The discharger shall continue to submit annual Pollution Prevention reports by July 15th and progress reports by January 15th of each year that are acceptable to the Executive Officer. The reports should include (1) documentation of its identify specific tasks and establish time schedules for future efforts. Duplicate copies of the reports shall be provided: one to the NPDES Permit Case Handler and one to the Pollution Prevention Coordinator.
10. The discharger shall implement and enforce its approved pretreatment program in accordance with Board Order 89-179 and its amendments thereafter. The discharger's responsibilities include, but are not limited to:
  - a. Enforcement of National Pretreatment Standards (e.g. prohibited discharges, Categorical Standards, local limits) in accordance with 40 CFR 403.5 and Section 307(b) and (c) of the Clean Water Act.
  - b. Implementation of the pretreatment program in accordance with legal authorities, policies, procedures, and financial provisions described in the General Pretreatment regulations (40 CFR 403) and its approved pretreatment program.
  - c. Submission of annual and quarterly reports to USEPA and the State as described in Board Order 89-179, and its amendments thereafter.

11. The discharger shall review, and update as necessary, its Operations and Maintenance Manual, annually, or within 90 days of completion of any significant facility or process changes. The discharger shall submit to the Board, by July 15 of each year, a letter describing the results of the review process including an estimated time schedule for completion of any revisions determined necessary, and a description or copy of any completed revisions.
12. Annually, the discharger shall review and update as necessary, its Contingency Plan as required by Board Resolution 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or adequately implement a contingency plan will be the basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code. The discharger may include in its Contingency Plan elements to satisfy the requirements of Standard Provisions and Reporting Requirements D. (Treatment Reliability) and E.5, Spill Prevention Contingency Plans. Plan revisions, or a letter stating that no changes are needed, shall be submitted to the Board by July 15 of each year.
13. The discharger shall implement a program to regularly review and evaluate its wastewater collection, treatment and disposal facilities in order to ensure that all facilities are adequately staffed supervised, financed, operated, maintained, repaired, and upgraded as necessary, in order to provide adequate and reliable transport, treatment, and disposal of all wastewater from both existing and planned future wastewater sources under the discharger's service responsibilities. A Treatment Facilities Evaluation Program report discussing the status of this evaluation program, including any recommended or planned actions, shall be submitted to the Board by July 15 of each year.
14. The discharger shall comply with the **Self-Monitoring Program** for this order, as adopted by the Board and as may be amended by the Executive Officer.
15. The discharger shall comply with all applicable items of the attached **"Standard Provisions and Reporting Requirements "** dated August 1993, or any amendments thereafter.
16. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to this office. To assume operation of this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. (Refer to

Standard Provisions, referenced above). The request must contain the requesting entity's full legal name, the address and telephone number of the persons responsible for contact with the Board and a statement. The statement shall comply with the signatory paragraph described in Standard Provisions and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code.

17. The Board may modify, or revoke and reissue, this Order and Permit if present or future investigations demonstrate that the discharge(s) governed by this Order are causing or significantly contributing to adverse impacts on water quality and/or beneficial uses of the receiving waters.
18. This Order expires on October 19, 1999. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days before this expiration date as application for reissuance of waste discharge requirements.
19. This Order shall serve as a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, EPA, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 19, 1994.

  
STEVEN R. RITCHIE  
Executive Officer

Attachments:

- A. Technology-based requirements for CSOs (Nine Minimum Controls)
- B. Definition of NOEL
- C. Self-Monitoring Program
- D. Standard Provisions and Reporting Requirements - August 1993



## ATTACHMENT A

### Technology-based requirements for CSOs (Nine Minimum Controls)

For

### City and County of San Francisco

The permittee shall comply with the following technology-based limits in the form of narrative controls:

1. Conduct proper operations and regular maintenance programs. The permittee shall implement the Operations and Maintenance Plan for the combined sewer system that will include the elements listed below. The permittee also shall update the plan to incorporate any changes to the system and shall operate and maintain the system according to the plan. The permittee shall keep records to document the implementation of the plan.

Designation of a Manager for Combined Sewer Overflows. The permittee shall designate a person to be responsible for the wastewater collection system and serve as the contact person regarding combined sewer overflows. The permittee shall notify the permitting authority within 90 days of designation of a new contact person.

Inspection and Maintenance of CSS. The permittee shall inspect and maintain all CSO structures, regulators, pumping stations, and tide gates to ensure that they are in good working condition and adjusted to minimize CSOs and prevent tidal inflow. The permittee shall inspect, or cause to be inspected, each CSO outfall at least once per year. The inspection shall include, but is not limited to, entering the regulator structure if accessible, determining the extent of debris and grit build-up, and removing any debris that may constrict flow, cause blockage, and result in a dry weather overflow. The permittee shall record in a maintenance log book the results of the inspections. For CSO outfalls that are inaccessible, the permittee may perform a visual check of the overflow pipe to determine whether or not the CSO is occurring during dry weather flow conditions.

Provision for Trained Staff. The permittee shall provide an adequate number of full-time equivalents to carry out the operation, maintenance, repair, and testing functions required to ensure compliance with the terms and conditions of this permit. Each member of the staff shall receive appropriate training.

Allocation of Funds for Operation and Maintenance. The permittee shall allocate adequate funds specifically for operation and maintenance activities. The permittee shall submit a certification of assurance from the affected local government entities that the necessary funds, equipment, and personnel have been or will be committed to carry out the O&M plan.

2. Maximize use of the collection system for storage. The permittee shall continue to maximize the in-line storage capacity.
3. Review and modify pretreatment program. The permittee shall continue to implement selected controls to minimize the impact of non-domestic discharges. The permittee shall re-evaluate every 3 years whether additional modifications to its pretreatment program are feasible or of practical value. The permittee shall keep records to document this evaluation and implementation of the selected controls to minimize non-domestic discharges.
4. Maximize flow to POTW treatment plant. The permittee shall operate the POTW treatment plant at maximum treatable flow of during wet weather flow conditions. Initially the peak wet-weather flow (PWWF) capacity of the plant will be 210 MGD. Upon completion of improvements to the plant the PWWF capacity will increase to 250 MGD. The permittee shall report rainfall and flow data to the Board as part of the Self-Monitoring Reports for either the Southeast Water Pollution control Plant or the Wet-Weather Diversion Structures.
5. Prohibit combined sewer overflows during dry weather. Dry weather overflows from CSO outfalls are prohibited. All dry weather overflows must be reported to the permitting authority within 10 days of when the permittee become aware of a dry weather overflow. When the permittee detects a dry weather overflow, the permittee shall begin corrective action immediately. The permittee shall inspect the dry weather overflow each subsequent day until the overflow has been eliminated. The permittee shall record in the inspection log book dry weather overflows, as well as the cause, corrective measures taken, and the dates of the beginning and cessation of overflow.
6. Control solid and floatable materials in CSOs. The permittee shall continue to implement measures to control solid and floatable materials in its CSOs. These measures shall include:
  - (i) Ensure that all overflows from the diversion structures are baffled or that other means are used to reduce the volume of floatables.
  - (ii) Remove solid or floatable materials captured in the storage/transport in an acceptable manner prior to discharge to the receiving water.
7. Develop and implement pollution prevention program. The permittee shall continue to implement a pollution prevention program focused on reducing the impact of CSOs on receiving waters. The permittee shall keep records to document pollution prevention implementation activities. This program shall include:
  - (i) Conducting street sweeping and catch basin cleaning at a frequency that will prevent large accumulations of pollutants and debris.
  - (ii) Conducting a public education program that informs the public of the permittee's pollution prevention requirements.

8. Notify the public of CSOs. The permittee shall continue to implement a public notification plan to inform citizens of when and where overflows occur. The process must include:
  - a. A mechanism to alert persons using all receiving bodies of water affected by CSOs.
  - b. A system to determine the nature and duration of conditions that are potentially harmful to users of these receiving water bodies due to CSOs.

The permittee shall keep records documenting public notification.

9. Monitor to effectively characterize CSO impacts and the efficacy of CSO controls. The permittee shall regularly monitor CSO outfalls to effectively characterize CSO impacts and efficacy of CSO controls.



CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

CITY AND COUNTY OF SAN FRANCISCO  
SOUTHEAST WATER POLLUTION CONTROL PLANT  
SAN FRANCISCO COUNTY

NPDES NO. CA 0037664

ORDER NO. 94-149

CONSIST OF  
PART A,

dated August 1993

AND

PART B



## CITY AND COUNTY OF SAN FRANCISCO

### I. SAMPLING SCHEDULE DESCRIPTION

TABLE 1 SAMPLING SCHEDULE Currently, the Southeast Water Pollution Control Plant can provide sewage treatment for an influent flow up to 210 MGD. Secondary treatment is provided for flows up to 150 MGD, primary treatment is provided for flows in excess of 150 MGD and up to 210 MGD. Treated effluent up to 100 MGD is discharged to the Pier 80 outfall into San Francisco Bay. Effluent flow in excess of 100 MGD is discharged to the Quint Street outfall into Islais Creek. During dry weather, all flow is provided secondary treatment and is discharged to the Pier 80 outfall. During wet weather, when the flow rate exceeds 150 MGD a blended treatment of primary and secondary is achieved. Of this blended effluent, 100 MGD is discharged to the Pier 80 outfall and the excess is discharged to the Quint Street outfall. Since the quality of effluent to each of the outfalls is equal, the effluent sampling location the same and is described as E-001 & E-002.

TABLE 2 SAMPLING SCHEDULE Improvements to the Rankin Pump Station and the Southeast Water Pollution Control Plant are in progress. Once the improvements are complete, the Southeast Water Pollution Control Plant will be able to provide sewage treatment for an influent flow up to 250 MGD. Secondary treatment will be provided for flows up to 140 MGD, primary treatment will be provided for flows in excess of 150 MGD and up to 250 MGD. During dry weather, all flow will be discharged to the Pier 80 outfall. During wet weather, when the flow rate exceeds 150 MGD, up to 100 MGD of primary and secondary treated blended effluent will be discharged to the Pier 80 outfall. Wet weather flow up to 150 MGD will receive full secondary treatment and be discharged to the Quint Street outfall into Islais Creek. The sampling location for all effluent flow receiving full secondary treatment regardless to which outfall it is discharged is described as E-002. The sampling location for effluent receiving a combination treatment of primary and secondary and discharged to Pier 80 outfall during wet weather periods is described as E-001.

### II. DESCRIPTION OF SAMPLING STATIONS

#### A. INFLUENT

##### STATION

##### DESCRIPTION

A-001

At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT -

**PRIOR TO THE SOUTHEAST WATER POLLUTION CONTROL PLANT IMPROVEMENT**

<u>STATION</u>	<u>DESCRIPTION</u>
E-001 & E-002	At any point in the outfalls for (Waste 001 and 002, respectively), between the points of discharge and the points at which all wastes tributary to each outfall are present (may be the same location).
E-001D	At any point in the disinfection facilities at which point adequate contact with the disinfectant is assured (may be the same location as E-001).

**AFTER COMPLETION OF THE SOUTHEAST WATER POLLUTION CONTROL PLANT IMPROVEMENTS**

<u>STATION</u>	<u>DESCRIPTION</u>
E-001	<b><u>Under Dry Weather Discharge Conditions:</u></b> At any point in the sewerage system, between the point of discharge and the point at which all wastes have gone through complete secondary treatment, including disinfection.  <b><u>Under Wet Weather Discharge Conditions:</u></b> At any point in the sewerage system, between the point of discharge and the point at which adequate contact with the disinfectant is assured.
E-001D	At any point in the disinfection facilities at which point adequate contact with the disinfectant is assured (may be the same location as E-001).
E-002	Wet weather discharge only, at any point in the sewerage system, between the point of discharge into Islais Creek and the point at which all wastes have gone through complete secondary treatment, including disinfection.
E-002 D	At any point in the disinfection facilities at which point adequate contact with the disinfectant is assured (may be the same location as E-001).

\* If the discharger wants to use a substitute effluent sampling station, and demonstrates to the satisfaction of the Regional Board's Executive Officer that a statistically sound correlation exists between data obtained for the substitute station and that for the designated station, the Executive Officer may approve use of the substitute station. However, if such substitution involves variation from the approved Test Procedures, the alternate test procedures shall be requested and considered pursuant to 40 CFR 136.5.

C. RECEIVING WATERS (ISLAIS CREEK AND SAN FRANCISCO BAY)  
(FIGURE 1)

<u>STATION</u>	<u>DESCRIPTION</u>
C-1	In Islais Creek, at the west end of the Creek.
C-2	In Islais Creek, west of Bascule Bridge off Quint Street outfall.
C-3	In Islais Creek, approximately 850 feet east of Station C-2.
C-4	In Islais Creek, approximately 1600 feet east of Station C-3.
C-5	In Islais Creek, approximately 850 feet east of previous Station C-4.
C-6	Off Pier 80 outfall approximately 1100 feet.
C-7	Approximately 850 feet off the south edge of Pier 80.
C-8	Off Pier 80 outfall approximately 600 feet.
C-9	Approximately 850 feet off the north edge of Pier 80.
C-10	Approximately 1800 feet offshore, out from PGE Potrero stack.
C-11	Off Pier 80 outfall approximately 1/2 nautical mile.

D. BOTTOM SEDIMENT (ISLAIS CREEK AND SAN FRANCISCO BAY)  
(FIGURE 1)

<u>STATION</u>	<u>DESCRIPTION</u>
B-1 to B-6	Refer to Figure 1

## II. CHRONIC TOXICITY MONITORING REQUIREMENT

- A. Test Species and Frequency: The discharger shall collect a 24-hour composite sample of the treatment plant effluent at station E-001 or E-001 & E-002, for critical life stage toxicity testing in accordance with the attached Tables 1 and 2.
- B. Methodology: Sample collection, handling and preservation shall be in accordance with EPA protocols. The test methodology used shall be in accordance with the references cited in Order No. 92-104 (ASTM, 1987), or as approved by the Executive Officer. A concurrent reference toxicant test shall be performed for each test.
- C. Dilution Series: The discharger shall conduct tests at 32%, 20%, 15%, 10%, 5.6%, and 3.2%. The "%" represents percent effluent as discharged.

## III. CHRONIC TOXICITY REPORTING REQUIREMENTS

- A. Routine Reporting: Toxicity test results for the current reporting period shall include at a minimum, for each test
  1. sample date(s)
  2. test initiation data
  3. test species
  4. end point values for each dilution (e.g. percent normal development, percent survival)
  5. NOEC value(s) in percent effluent
  6. IC<sub>25</sub> and IC<sub>50</sub> values, (or EC<sub>25</sub> and EC<sub>50</sub>) in percent effluent
  7. Tuc values (100/NOEC)
  8. IC<sub>50</sub> or EC<sub>50</sub> value(s) for reference toxicant test(s)
  9. Available water quality measurements for each test (e.g. pH, D.O., temperature, conductivity, hardness, salinity, ammonia ).
- B. Compliance Summary: Each self-monitoring report shall include a summary of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under Section A, item numbers 1, 3, 5, 6, and 7.
- C. Reporting Raw Data in Electronic Format: On a quarterly basis, by February 15, May 15, August 15, and December 15 of each year, the discharger shall report all chronic toxicity data for the previous calendar quarter in the format specified by the Statewide Chronic Toxicity Database Management System (TOXIS).

#### IV. SCHEDULING OF SAMPLING ANALYSIS, AND OBSERVATIONS

- A. The schedule of sampling analysis, and observations shall be that given in Tables I and 2 and the attached footnotes.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 94 -194.
2. Is effective on the date shown below.
3. May be amended by the Executive Officer pursuant to 40 CFR 122.63.

  
STEVEN R. RITCHIE  
Executive Officer

Effective Date: 10/19/94

Attachments:

Tables I and 2  
Legend and Footnotes for Tables  
Figure 1



**TABLE 1**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSIS**  
**PRIOR TO RINCON PUMP STATION AND SOUTHEAST**  
**WATER POLLUTION CONTROL PLANT IMPROVEMENT**

SAMPLING STATION TYPE OF SAMPLE	A001 C-24	E001 & E002 G C-24 CONT			E001D G	B1 to B6 G	C1 to C11 G
Flow Rate (MGD)	D			D(5)			
BOD, 5-day, 20°C or COD (mg/L & Kg/day)	W		W				
Chlorine Residual & Dosage (mg/L & Kg/day)		H	or	CONT			
Settleable Matter (mL/L-hr & cu.ft/day)		5/W					
Total Suspended Matter (mg/L & Kg/day)	5/W		5/W				
Oil & Grease (mg/L & Kg/day)	M(3)		M(3)				
Fecal Coliform Bacteria ((Density/100mL)					(1)(2) 5/W		(6)
Acute Toxicity-96hr. Percent Survival, TUa				2/M(7)			
Chronic Toxicity (Percent Normal Development, TUc)			M(8)				
Ammonia Nitrogen (mg/L & Kg/day)			2/Y				
Total Phosphate (mg/L & Kg/day)			2/Y				
Turbidity (Jackson Turbidity Units)			W				(6)
pH (units)		5/W					(6)
Dissolved Oxygen (mg/L & saturation)		W					(6)
Temperature (°C)		W					(6)
Conductivity (mmhos/cm)							(6)
Unionized Ammonia (mg/L)			W				(6)
Pesticidal Compounds (mg/L & Kg/day)			W				(6)
Sulfides (If DO < 5.0 mg/L) (Total & Dissolved mg/L)							(6)
Arsenic (mg/L & Kg/day)			W				
Cadmium (mg/L & Kg/day)			W				
Chromium (mg/L & Kg/day)			W				
Copper (mg/L & Kg/day)			W				

**TABLE 1 (continued)**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSIS**  
**PRIOR TO RINCON PUMP STATION AND SOUTHEAST**  
**WATER POLLUTION CONTROL PLANT IMPROVEMENT**

SAMPLING STATION TYPE OF SAMPLE	A001 C-24	E001 & E002 G C-24 CONT			E001D G	B1 to B6 G	C1 to C11 G
Lead (mg/L & Kg/day)			W				
Mercury (mg/L & Kg/day)			W				
Nickel (mg/L & Kg/day)			W				
Selenium (mg/L & Kg/day)			W				
Silver (mg/L & Kg/day)			W				
Zinc (mg/L & Kg/day)			W				
Cyanide (mg/L & Kg/day)			W				
Toxic Organic Compounds (Section B.6.2 Toxic Pollutants)			4 /Y				
Bottom Sediment Analyses and Observations						(4)	

**LEGEND FOR TABLE 1**

**TYPES OF SAMPLES**

- G = Grab Sample
- C-24 = Composite Sample - 24 hours
- C-X = Composite Sample - X hours  
(used when discharge does not  
continue for 24 hour period)
- Cont = Continuous sampling
- O = Observation

**TYPES OF STATIONS**

- A = Treatment Facility Influent Station
- E = Waste Effluent Station
- B = Bottom Sediment Station
- C = Receiving Water Station

**FREQUENCY OF SAMPLING**

- |                     |   |                         |
|---------------------|---|-------------------------|
| E = Each Occurrence | 2/H = Twice per Hour                                    | 2H = Every two hours    |
| H = Once Each Hour  | 2/W = Two days per Week                                 | 2D = Every two days     |
| D = Once Each Day   | 5/W = Five days per Week                                | 2W = Every two weeks    |
| W = Once Each Week  | 2/M = Two days per Month                                | 3M = Every three months |
| M = Once Each Month | 2/Y = Two days per Year                                 |                         |
| Y = Once Each Year  | Once in the dry season, Once in the wet season          |                         |
| Cont = Continuous   | Q = Quarterly, once in March, June, September, December |                         |

**TABLE 2**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSIS**  
**AFTER COMPLETION OF RINCON PUMP STATION AND SOUTHEAST WATER**  
**POLLUTION CONTROL PLANT IMPROVEMENTS**

SAMPLING STATION TYPE OF SAMPLE	A001 C-24	E001 G C-24	E001 CONT	E001D G	E002 G C-X	E002D G	B1 to B6 G	C1 to C11 G
Flow Rate (MGD)	D		D(5)					
BOD, 5-day, 20°C or COD (mg/L & Kg/day)	W	W			(9)			
Chlorine Residual & Dosage (mg/L & Kg/day)		H or	CONT		H			
Settleable Matter (mL/L-hr & cu.ft/day)		S/W						
Total Suspended Matter (mg/L & Kg/day)	S/W		S/W		(9)			
Oil & Grease (mg/L & Kg/day)	M(3)	M(3)			(9)			
Fecal Coliform Bacteria (Density/100mL)				(1)(2) S/W		E		(6)
Acute Toxicity-96hr.			2/M(7)		(9)			
Percent Survival, TUa								
Chronic Toxicity (Percent Normal Development, TUc)		M(8)						
Ammonia Nitrogen (mg/L & Kg/day)		2/Y			(9)			
Total Phosphate (mg/L & Kg/day)		2/Y						
Turbidity (Jackson Turbidity Units)		W						(6)
pH (units)		W			(9)			(6)
Dissolved Oxygen (mg/L & saturation)		W						(6)
Temperature (°C)		W						(6)
Conductivity (mmhos/cm)								(6)

**TABLE 2 (continued)**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSIS**  
**AFTER COMPLETION OF RINCON PUMP STATION AND SOUTHEAST WATER**  
**POLLUTION CONTROL PLANT IMPROVEMENTS**

SAMPLING STATION TYPE OF SAMPLE	A001 C-24	E001 & E002 G C-24 CONT	E001D G	E002 G C-24	E002D G	B1 to B6 G	C1 to C11 G
Unionized Ammonia (mg/L)		W					(6)
Phenolic Compounds (mg/L & Kg/day)		W					(6)
Sulfides (If DO < 5.0 mg/L) (Total & Dissolved mg/L)				(9)			(6)
Arsenic (mg/L & Kg/day)		W		(9)			
Cadmium (mg/L & Kg/day)		W		(9)			
Chromium (mg/L & Kg/day)		W		(9)			
Copper (mg/L & Kg/day)		W		(9)			
Lead (mg/L & Kg/day)		W		(9)			
Mercury (mg/L & Kg/day)		W		(9)			
Nickel (mg/L & Kg/day)		W		(9)			
Selenium (mg/L & Kg/day)		W		(9)			
Silver (mg/L & Kg/day)		W		(9)			
Zinc (mg/L & Kg/day)		W		(9)			
Cyanide (mg/L & Kg/day)		W		(9)			
Toxic Organic Compounds (mg/L) Section B.6.2 Toxic Pollutants		4 / Y		(9)			
Bottom Sediment Analyses and Observations						(4)	

TABLE 2 (continued)  
 SCHEDULE FOR SAMPLING, MEASUREMENTS AND ANALYSIS  
 AFTER COMPLETION OF RINCON PUMP STATION AND SOUTHEAST WATER  
 POLLUTION CONTROL PLANT IMPROVEMENTS

LEGEND FOR TABLE 2

TYPES OF SAMPLES

G = Grab Sample  
 C-24 = Composite Sample - 24 hours  
 C-X = Composite Sample - X hours  
       (used when discharge does not  
       continue for 24 hour period)  
 Cont = Continuous sampling  
 O = Observation

TYPES OF STATIONS

A = Treatment Facility Influent Station  
 E = Waste Effluent Station  
 B = Bottom Sediment Station  
 C = Receiving Water Station

FREQUENCY OF SAMPLING

E = Each Occurrence  
 H = Once Each Hour  
 D = Once Each Day  
 W = Once Each Week  
 M = Once Each Month  
 Y = Once Each Year  
 Cont = Continuous

2/H = Twice per Hour  
 2/W = Two days per Week  
 5/W = Five days per Week  
 2/M = Two days per Month  
 2/Y = Two days per Year

Once in the dry season, Once in the wet season  
 Q = Quarterly, once in March, June, September, December

2H = Every two hours  
 2D = Every two days  
 2W = Every two weeks  
 3M = Every three months

## FOOTNOTES FOR TABLES 1 AND 2

- (1) Samples collected Monday through Friday, excluding holidays. Report the running 30 day median fecal coliform bacteria density per 100 mL, and the percent fecal coliform greater than 1100/100 mL in the same 30 day period.
- (2) Sample collected during period of maximum flow and at a time when sampling for chlorine residual.
- (3) Oil and grease sampling shall consist of three grab samples taken at 8-hour intervals during the sampling day with each grab being collected in a glass container and analyzed separately. Results for station A001, E001, and E001 & E002 shall be expressed as the weighted average of the three values, based upon the instantaneous flow rates occurring at the time of each grab sample.
- (4) Bottom sediment analyses shall be conducted annually for heavy metals and polynuclear aromatic hydrocarbons (PAHs) at stations B1 to B6 in Islais Creek and in San Francisco Bay near the outfall diffuser. Three replicates from each station shall be analyzed. Each replicate sample shall be a composite of two sediment samples from the same station. Sampling shall be conducted during the dry weather season in the fall when sediments are least disturbed.
- (5) Report each discharge location separately as well as total flow discharged.
- (6) Receiving water samples shall be collected in the water column, with one sample taken from the surface, one sample taken from the middle, and one sample taken one meter above the bottom for the following parameters: ammonia, pH, DO, and temperature. All other parameters can be sampled at the surface. The sampling should be conducted at stations C1 to C11 twice yearly, once during the wet weather season from October through April, and once during the dry weather season from May through September.
- (7) Compliance with the acute effluent toxicity requirement shall be determined using three-spine stickleback in flow-through bioassays.
- (8) Compliance with the chronic effluent toxicity requirement shall be determined using either *Mytilus edulis* or *Crassostrea gigas* larvae, dependent upon spawning condition.
- (9) Samples shall be collected for the first and second wet weather event of the season, and then once monthly during wet weather events.

FIGURE 1  
SOUTHEAST WATER POLLUTION CONTROL PLANT  
RECEIVING WATER AND BENTHIC STATIONS



